

**EVALUATE THE EFFECTIVENESS OF AN EDUCATION INTERVENTION ON
DELIRIUM ASSESSMENT ON NURSES WORKING IN ICUs**Dr. Sheeja C. V.^{*1} and Theertha P. Krishnan²¹Principal, Aaffinity Nursing College, 33 Bheemanahalli, BM Main Road Ramanagara Dt Bidadi, Hobli – 562109.²Lecturer, Department of Medical Surgical Nursing Koyili College of Nursing, Kannur, Kerala 670604.***Corresponding Author: Dr. Sheeja C. V.**

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ABSTRACT

Background: Delirium is a serious disturbance in mental abilities that results in confused thinking and reduced awareness of environment. The onset of delirium episode is usually rapid within hours or gradually with few days. Assessment and prevention of delirium should occur at admission and continue throughout the hospital stay of patients. Multidisciplinary collaboration and interdisciplinary team work would reduce incidence of delirium in ICUs. The interventional strategies such as repeated reorientation, early mobilization and removal of catheters would enhance prevention of Delirium. **Method:** Quantitative Research Approach with One group pre-test - post-test design was used. 40 staff nurses were selected by using Purposive sampling. Knowledge, Screening practice and Perception of Nurses working in ICU on delirium was measured by structured questionnaire. Education Intervention regarding ICU Delirium Screening instrument was given to staff nurses for 30 minutes. Posttest was measured by same tool on 8th day of intervention. **Results:** The pre-test score was for knowledge 6.40 ± 2.18 , perception 42.73 ± 5.46 and Screening Practice 15.38 ± 2.63 respectively. The main effect between pretest and posttest measurement for Knowledge, Screening Practice and Perception was found to be (t' test = 9.79* for knowledge, t' test = 11.18* for screening practice, and t' test = 9.83* for perception, $p < 0.001$.) statistically significant at 0.05 level. There exists a significant difference in the scores of staff nurses between different measurement period. So null hypothesis is fully rejected. **Discussion:** Present study reveals education intervention improved the Knowledge, Screening practice and Perception of staff nurses working in ICU. Successful delirium screening implementation is possible with adequate knowledge on delirium screening instrument among all healthcare members.

KEYWORDS: Confusion Assessment Method for the ICU - (CAM-ICU), Intensive Care Delirium Screening Checklist - (ICDSC), ICU – Intensive Care Unit.

INTRODUCTION

Delirium is a serious problem in critical care unit. ICU patients are experiencing greater risk of developing delirium. Nurses are caring patients for 24 hours round the clock. Early detection of delirium can be achieved through careful identification by nurses and outcome of patient will be improved in critical care unit. Delirium assessment is important in clinical decision making for critically ill patients.

Delirium is a syndrome which include disturbances in thinking, a state of confusion, incoherence of thought and speech that develop in critically ill patients. Delirium is an acutely disturbed state of mind that occurs in fever, intoxication, and other disorders and is characterized by restlessness, illusions, and incoherence of thought and speech.^[1] Delirium assessment is important in clinical decision making for critically ill patients. ICU patients are experiencing greater risk of developing delirium.

Delirium is often multifactorial in etiology and each potential cause should be investigated. Failure to find a cause does not mean that delirium is not present, but that cause has yet to be determined.^[2] Being confused because of an acute medical condition is not failing to cope. Ensure that ICU unit has a policy for delirium assessment that a minimum of once per shift assessment for all critically ill patients by using a validated tool (i.e., CAM-ICU or ICDSC).

Need and Significance

Delirium prevention protocol can help to decrease incidence of delirium. Education on delirium screening can change nurse perception and improve nursing knowledge. Education promotes individual investment in delirium screening and encourages habitual instrument performance during their duty shift. Nurses play major role on the multidisciplinary team to recognize delirium and early prevention can reduce future complication and length of stay in the ICU.

Nurse education is a major factor that can influence nurse perception and knowledge of delirium screening in ICU setting. Education of the nurses is an essential component of the success of any new intervention or initiative.^[3] Nurses should be educated on delirium and delirium screening instruments to detect delirium as early as possible for intervention. The main aim of the study is the prevention of delirium in ICU Patients by early identification. Nurse education and perception should be prioritized to move delirium research forward.

Despite the high prevalence and negative outcomes, delirium in the ICU goes undetected and untreated. Nurses are expected to practice and implement delirium assessment for all critically ill patients using validated tools. Nursing driven delirium prevention protocol would be included nursing staff education on the CAMICU and protocol use. Before performing implementation 37.5% of patients in their intensive care unit developed delirium. After program implementation, only 13.8% developed delirium.^[4]

Nurses should utilize their expertise in giving care to critically ill patients by recognizing even minute change in symptoms of patient. Critical care nurse should have knowledge on the screening instruments commonly used in critical care units. Ongoing educational interventions through CNE will improve knowledge and change nurse's perception towards Delirium. The investigator felt the need to provide education intervention to critical care nurses and improve the quality of patient care which reduces hospital stay of patients.

Statement of the problem

A study to evaluate the effectiveness of an education intervention on Knowledge, Screening practice and Perception on Delirium Assessment among Staff Nurses working in ICU at Aster MIMS hospital Kozhikode.

OBJECTIVES

1. Identify Knowledge, Screening practice and Perception regarding ICU Delirium among nurses working in ICU
2. Evaluate the effectiveness of education intervention on Knowledge, Screening practice and Perception regarding ICU Delirium screening instruments among nurses working in ICU.
3. Find relationship between Knowledge, Screening practice and Perception regarding ICU Delirium among nurses working in ICU.

Hypotheses

H₁: There is significant improvement in posttest Knowledge, Screening practice and Perception regarding ICU Delirium after education intervention among nurses working in ICU.

H₂: There is significant relationship between Knowledge, Screening practice and Perception regarding ICU Delirium among nurses working in ICU.

Review Literature

Christina G et al determined the validity and reliability of the Intensive Care Delirium Screening Checklist (ICDSC) in a resource-poor medical intensive care setting in South India. Fifty-three patients admitted into the medical intensive care unit of a teaching hospital who were neither mute nor intubated were recruited for the study. Trained residents administered the ICDSC to screen for delirium. Findings indicate ICDSC can be used to screen for delirium in nonintubated intensive care unit patients.^[5]

Tyler J. et al evaluated the diagnostic accuracy of Confusion Assessment Method for the ICU (CAM-ICU) and Intensive Care Delirium Screening Checklist (ICDSC) among the nursing and medical staff in a multidisciplinary ICU. Three hundred and ten verbally communicating and non-communicating patients were (mean age in years 47.9, standard deviation (SD) 14.5, mean Acute Physiology and Chronic Health Evaluation II score 13.8) assessed. CAM-ICU showed higher sensitivity and Diagnostic Odds Ratio (84%, 86.1) compared to ICDSC (78%, 36.9). ICDSC had specificity and positive predictive value (94.5%, 92%) equal to that of CAM-ICU.^[6]

METHODOLOGY

Quantitative Research Approach with One group pre-test - post-test design was used. An Education Intervention on ICU Delirium Screening for 30 minutes given to 40 staff nurses working in ICU Aster MIMS hospital Kozhikode for those having experience of one year or more through Purposive sampling. Structured questionnaire used to measure Knowledge, Screening practice and Perception of Nurses working in ICU. Staff Nurses working in Critical Care Unit for less than one year were excluded. Content Validity was established from five experts in the field of Nursing for structured questionnaire and Education Intervention. CVI was 0.97. Reliability of tool was established by split half method and Cronbach's α ($r = 0.82$).

Data Collection Procedure

Acquired Institutional Review Board approval and permission from head of department authority of Aster MIMS hospital Kozhikode. Written consent was obtained from individual participants. The data was collected for a period from 22-08-18 to 14-09-18. The pre-survey assessment of knowledge, screening practice and perception regarding ICU Delirium screening instruments were done by using structured questionnaire. After completion of pre-survey, a 30-minute education intervention was implemented. Education included step-by-step instructions about how to use delirium screening instruments such as CAM-ICU & ICDSC and how to identify Delirium in ICU patients. After the education intervention, participants were asked to complete the posttests Survey on 8th day.

RESULTS

Summary of analysis is delineated in accordance with the outlined objectives of study. The staff nurses reported average mean score for the Knowledge, Screening practice and Perception regarding ICU Delirium.

Majority of staff nurses 98% were females, 75% were in age group of 30-41 years, 83% of staff nurses had BSc N degree, 50% has less than 3 years of experience and 100% did not have previous education about delirium assessment.

Objective-1: Identify Knowledge, Screening practice and Perception regarding ICU Delirium among nurses working in ICU

ICU Nurses had average scores in Knowledge, Screening practice and Perception regarding ICU Delirium as mean score is less than average of maximum score of the tool. The pre-test knowledge score was 6.40 ± 2.18 , perception score 42.73 ± 5.46 and Screening Practice score 15.38 ± 2.63 respectively.

Objective-2: Evaluate effectiveness of education intervention on delirium screening instruments among nurses working in ICU

ICU Nurses had average prescores in Knowledge, Screening practice and Perception regarding ICU Delirium as mean score is less than average of maximum score of the tool. The main effect between pretest and posttest measurement for Knowledge, Screening Practice and Perception (t' test = 9.79* for knowledge, t' test = 11.18* for screening practice, and t' test = 9.83* for perception, $p < 0.001$) was found to be statistically significant which signals that there exists a significant difference in the scores of staff nurses between different measurement period. This indicates that there is significant improvement in Knowledge, Screening Practice and Perception scores of staff nurses after the implementation of Education Intervention among staff nurses. The null hypothesis is fully rejected. (Table 1 & Figure-1).

Table- 1: Effectiveness of Education Intervention on Knowledge, Screening practice and Perception score of delirium screening instruments among nurses working in ICU.

Variable	PRE-TEST Mean \pm S D	POST TEST Mean \pm S D	Std. Error Mean	df	t' test	Sig.
Knowledge	6.40 \pm 2.18	10.25 \pm .95	0.39	39	9.79*	0.000*
Perception	42.73 \pm 5.46	65.40 \pm 2.81	0.68	39	9.83*	0.000*
Screening Practice	15.38 \pm 2.63	22.05 \pm 11.12	2.03	39	11.184*	0.000*

Paired t' test n=40

* Significant at the 0.001 level (2-tailed).

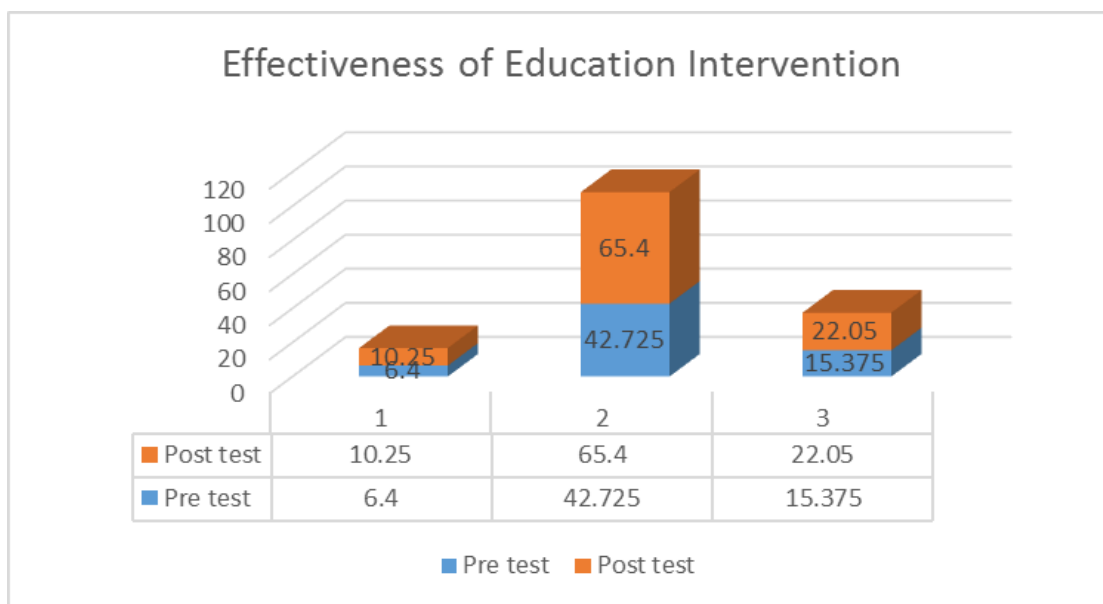


Figure 1: Effectiveness of Education Intervention on Knowledge, Screening practice and Perception score of delirium screening instruments among nurses working in ICU.

Objective-3 Find relationship between Knowledge, Screening practice and Perception regarding ICU Delirium among nurses working in ICU

Result of correlation is significant as the t' value is 2.02, the correlation is significant at the 0.05 level (2-tailed).

Since $r = 0.66$ & is significant at 0.05 level there is a correlation between Screening Practice and Knowledge. Knowledge and Screening Practice of staff nurses are related. Research hypothesis is partially accepted. (Figure-2).

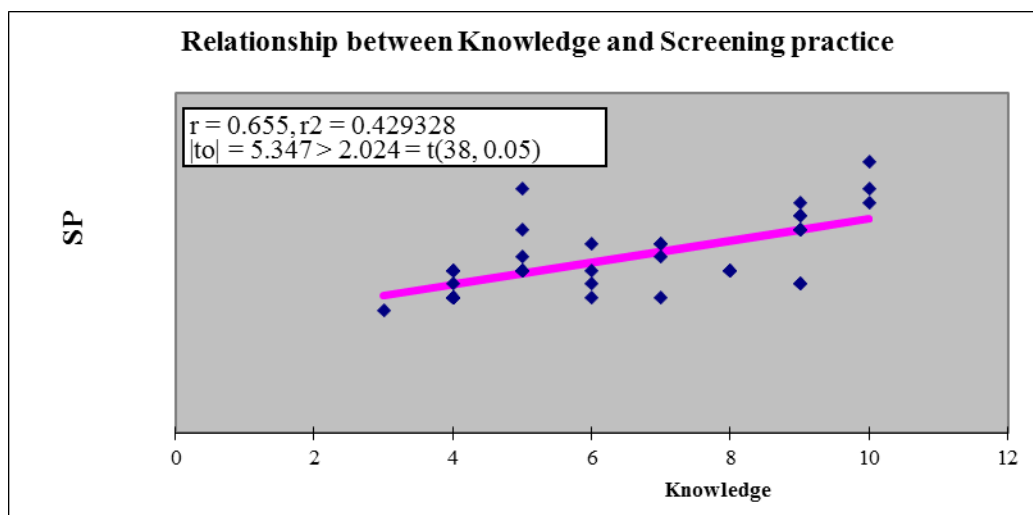


Figure 2: Correlation between Knowledge and Screening practice of nurses working in ICU.

DISCUSSION

Delirium screening assessment by health care professionals in ICU will improve their Clinical practice. Multifaceted education intervention strategies are expected to improve adherence to screening practices of patients by staff nurses in ICU.^[7] ICU patients are commonly intubated, sedated, and/or physically weak. These may lead to the development of delirium in ICU patients. Present study reveals that successful delirium screening implementation is possible with adequate knowledge on delirium screening instrument as posttest reveals significant improvement in Knowledge, Screening Practice and Perception of staff nurses after the implementation of Education Intervention on Delirium assessment. Both measurement instruments are validated for using in ICU patients. This study reveals the education intervention can improve the Knowledge, Screening practice and Perception of staff nurses working in ICU.

Nursing Implication

Identification of barriers and facilitators for the implementation of the ICU delirium screening instruments by Nurse Administrator will provide a frame work for improving the adherence of staff nurses in using screening instruments in ICU Patients for detecting & preventing occurrence of Delirium episodes and in turn can improve quality of nursing care and reduce hospital stay of patients.

Recommendation

Similar study can be carried out using different tools to measure ICU Delirium among Nurses. Future studies are needed to replicate and extend the findings by using a larger sample from a wide geographical area.

CONCLUSION

Prevention of delirium in ICU patients is possible by effective use of delirium screening instruments by all health care professionals. Along with screening of delirium, other pharmacological and non-pharmacological measures shall help to reduce the

occurrence of delirium. The multifaceted approach will enhance cost reduction and customer satisfaction in health care setting.

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